

Date: Monday, 06/10/2008 10:13:22 AM  
User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : STEM  
Job Number : 42439  
Estimate Number : 10857  
P.O. Number :  
This Issue : 06/10/2008 S.O. No. :  
Prsht Rev. : NC Part Number : D3407 <sup>W</sup>  
First Issue : / / Type : MACHINED PARTS Drawing Number : D3407 REV E  
Previous Run : 42216 Project Number : N/A  
Drawing Revision :  
Material :  
Due Date : 13/10/2008 Qty: 10 Um: Each  
Written By :  
Checked & Approved By :  
Comment : Est Rev:A 05.10.18 New issue KJ/EC  
Est Rev:B Now on Doosan 08-05-14 JLM Verified By:DD  
Est Rev:C 08-08-12 revE as per dwg (ecn 08-507) DD verified by:EC

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M174R0750 17-4 round bar .750



Comment: Qty.: 0.3843 f(s)/Unit Total: 3.8430 f(s)  
Material: 17-4ph SS Round Bar Ø0.750(M17-4-R0.750)  
Identify for D3407-7  
Batch: M105 710X5 <sup>SS</sup> M109478X5 <sup>SS</sup>

J.F. 08/10/24

2.0 DOOSAN LATHE DOOSAN LATHE



Comment: DOOSAN CNC LATHE

1-Turn as per Folio FA ~~X~~ Rev: ~~X~~ & Dwg D3407 Rev: E

2-Deburr

J.F. 08/10/24

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.F. 08/10/24

4.0 QC8 SECOND CHECK



Comment: SECOND CHECK

SJA 08/10/24

5.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 91

8/10/27

SJA

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 06/10/2008 10:13:22 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STEM

Job Number: 42439

Part Number: D3407<sup>57</sup>

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



08/10/27 *df*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 08-10-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

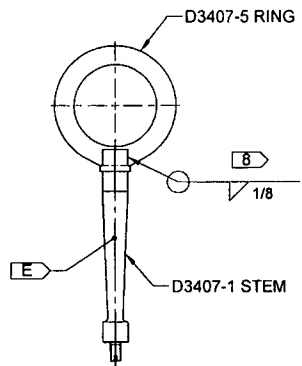
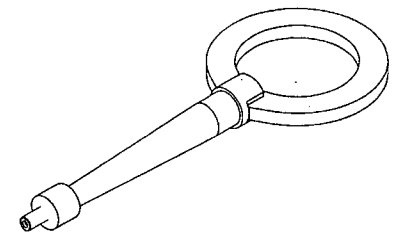
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

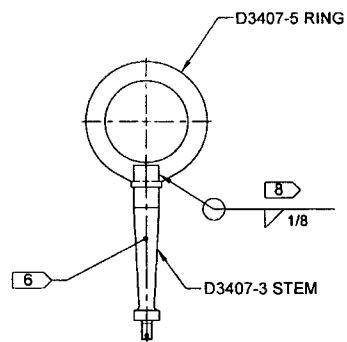
**NOTE:** Date & initial all entries

QTY -041	QTY -043	QTY -045	PART NUMBER	DESCRIPTION
X			D3407-041	TOW RING
	X		D3407-043	TOW RING
		X	D3407-045	TOW RING
1			D3407-1	STEM
	1		D3407-3	STEM
1	1	1	D3407-5	RING
		1	D3407-7	STEM

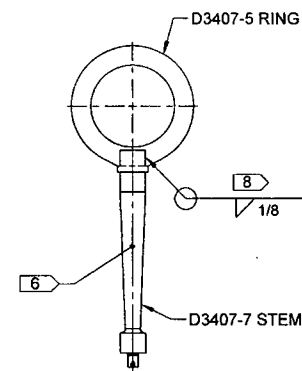
WFO  
42439



**D3407-041 TOW RING**



**D3407-043 TOW RING**



**D3407-045 TOW RING**

**RELEASED**  
07-08-21

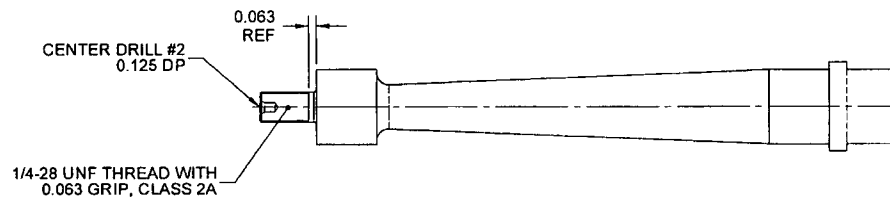
- NOTES:**
- 1) MATERIAL: N/A
  - 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3 (EXCEPT THREADS)
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3407-XXX" USING BLACK FINE POINT PERMANENT INK MARKER
  - 7) WEIGHT: D3407-041 - 0.60 lbs, D3407-043 - 0.53 lbs, D3407-045 - 0.61 lbs
  - 8) WELD PER DART QSI 004 ON ALL EDGES BETWEEN STEM AND RING

REV.	DESCRIPTION	BY	DATE
E	ADD D3407-045 (ZN B2-1, D8-1); ADD D3407-7 (ZN B6-5); REVISED NOTE 6 TO ADD IDENTIFICATION (ZN A5-1); REASON: PRODUCTION FACILITY	PH	08.07.23
D	D3407-1/3 SLOT WAS ROUND NOW FLAT FOR ASSEMBLY WITH D3407-5 (ZN C2-2, C2-3); D3407-5 WAS ROUND NOW FLAT ON ONE END FOR ASSEMBLY WITH D3407-1/3 (ZN B6-4); REASON: PRODUCTION FACILITY	PH	08.04.07
C	-1/3 LONGER FOR FIT W/WASHER	CP	05.09.09
B	UPDATE DIAMETER, THREAD CLASS ADDED	CP	05.06.17
A	NEW ISSUE	CP	05.03.16
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.07.23		

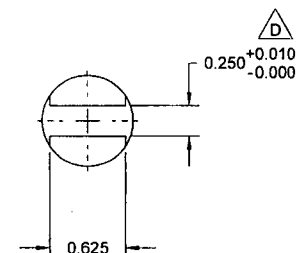
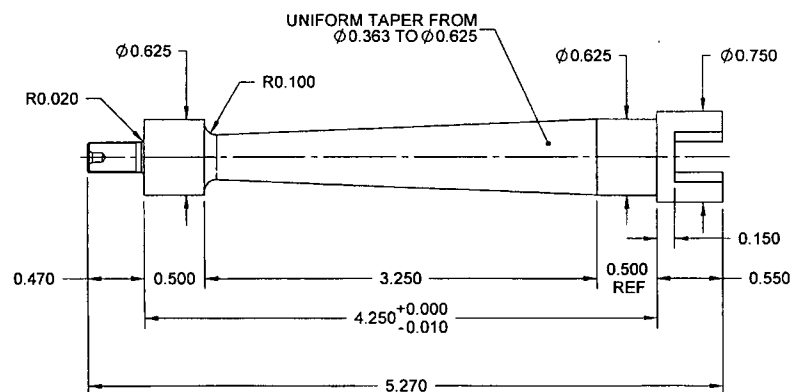
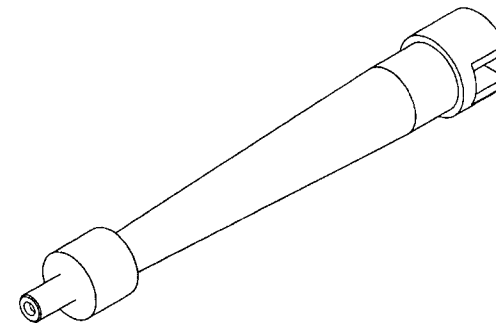
**DART AEROSPACE USA, INC.**  
PORT HADLOCK, WA

DRAWING NO. **D3407** REV. E  
SHEET 1 OF 5  
TITLE **TOW RING** SCALE NTS

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*W112439*



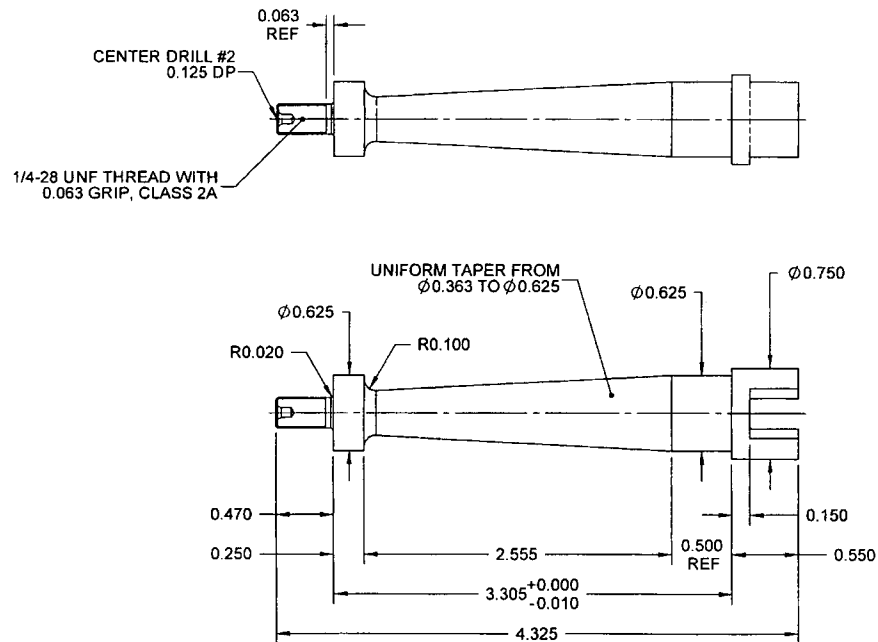
**D3407-1 STEM**

**RELEASED**

**NOTES:**

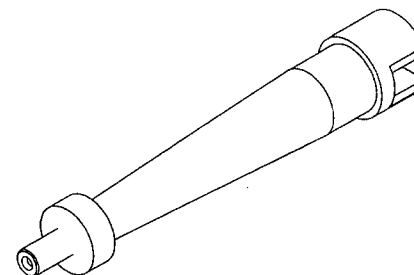
- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643 (REF. DART SPEC M17-4-R)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.33 lbs

DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		<b>D3407</b>	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>TOW RING</b>	NTS
DATE	<b>08.07.23</b>	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	



**D3407-3 STEM**

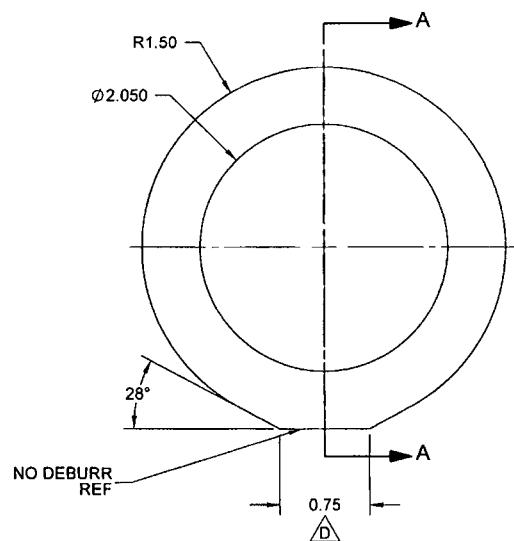
*6 E 7 2 7 3 9*



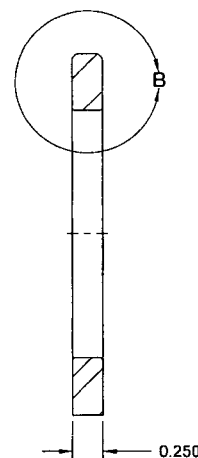
- NOTES:
- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643 (REF. DART SPEC M17-4-R)
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.27 lbs

**RELEASED**  
08-07-23

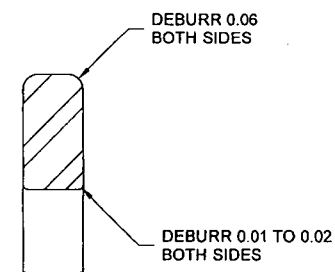
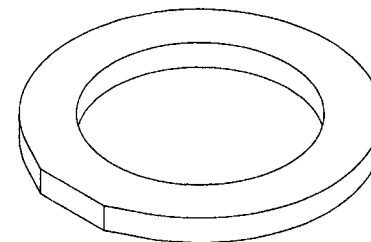
DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3407	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		TOW RING	NTS
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**D3407-5 RING**



**SECTION A-A**



**DETAIL B**  
SCALE 2X

**RELEASED**  
08-06-01/18

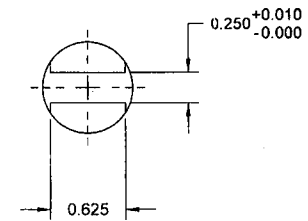
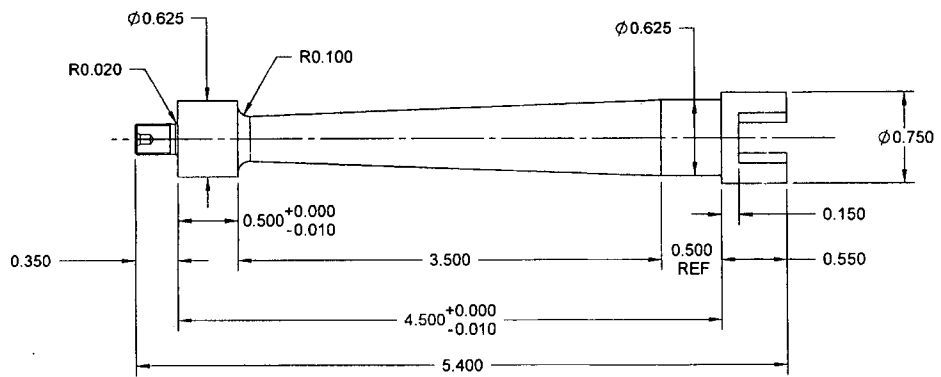
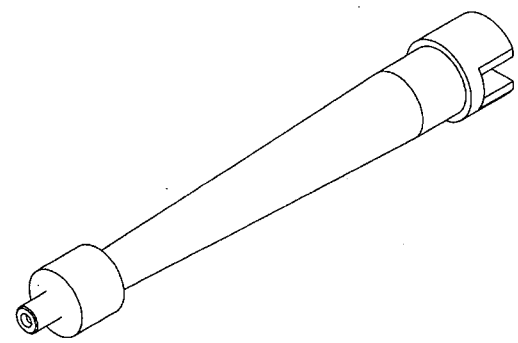
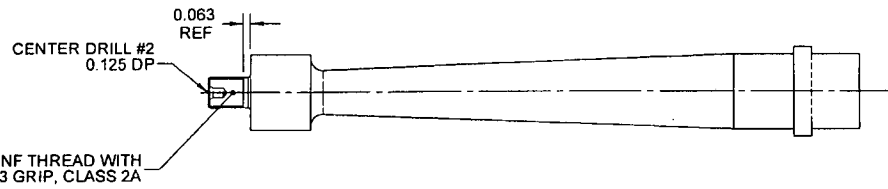
- NOTES:**
- 1) MATERIAL: 17-4 PH SS BAR PER AMS 5604/5643 (REF. DART SPEC M17-4-B)
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.27 lbs

DESIGN	97	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	1/2	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		<b>D3407</b>	SHEET 4 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>TOW RING</b>	NTS
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8 7 6 5 4 3 2 1

Mo 112139



**D3407-7 STEM**

**RELEASED**

- NOTES:
- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643 (REF. DART SPEC M17-4-R)
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.34 lbs

DESIGN	AJS	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	<i>[Signature]</i>	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>[Signature]</i>	<b>D3407</b>	SHEET 5 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>TOW RING</b>	NTS
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8 7 6 5 4 3 2 1

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 42439
<b>Description:</b> STEM		<b>Part Number:</b> D3407-7
<b>Inspection Dwg:</b> D3407, Rev: E		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☒ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.063"	$\pm .010$ "	.063"	✓			
Over Wires	Max: .2608 Min: .2635	.265"	✓			
Major Dia.	Max: .249 Min: .2425	.243"	✓			
Ø .625"	$\pm .010$ "	Ø .626"	✓			
R .010"	$\pm .010$ "	R .010"	✓			
R .020"	$\pm .010$ "	R .020"	✓			
.350"	$\pm .010$ "	.349"	✓			
.500"	$\pm .010$ "	.500"	✓			
3.500"	$\pm .010$ "	3.500"	✓			
4.500"	$\pm .010$ "	4.496"	✓			
5.400"	$\pm .010$ "	5.402"	✓			
Ø .750"	$\pm .010$ "	Ø .749"	✓			
.150"	$\pm .010$ "	.151"	✓			
.550"	$\pm .010$ "	.555"	✓			
.250"	$\pm .010$ "	.255"	✓			
.625"	$\pm .010$ "	.624"	✓			

<b>Measured by:</b> J.F.	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b> [Signature]
<b>Date:</b> 08/10/24	<b>Date:</b> 08/10/24	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	